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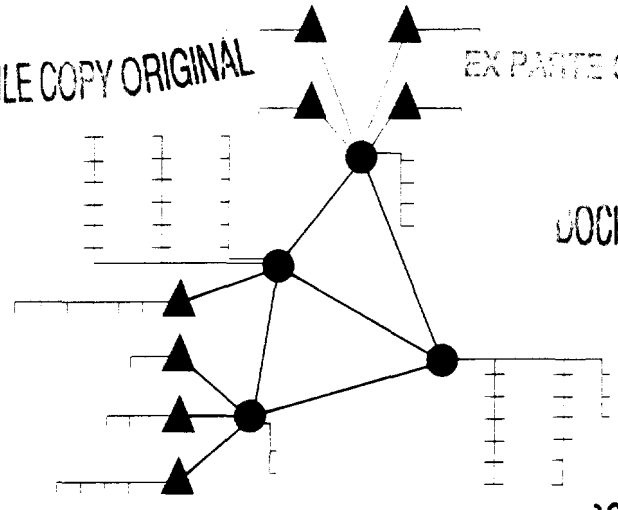

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# FTS2000 Price Redetermination: A Case Study in Successful Competition

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*The FTS2000 Year 7 Price Redetermination and Service Reallocation competition between AT&T and Sprint, the two FTS2000 service contractors, resulted in strikingly low prices and enormous savings for government telecommunications. This highly successful competition was a result of careful planning and an understanding of the incentives and disincentives that motivate vendors in a competition. This article explains Price Redetermination and Service Reallocation and explores the factors that led to its success.*

## Introduction

On December 1, 1995, the U.S. government's General Services Administration (GSA) announced the results of the Year 7 Price Redetermination and Service Reallocation (PR/SR) for FTS2000, the government's telecommunications services network. By winning the PR/SR competition, AT&T's revenue share will increase from 60% to 76% of the total FTS2000 revenue. Sprint's will be reduced from 40% to 24%. The new prices for the last three years of the FTS2000 program will reduce costs by about $600 million, or 29% of the cost the government would have incurred had the competition not taken place.

This announcement went virtually unnoticed by the nation's news media, and hence by the general public, which is an unfortunate omission: Year 7 PR/SR, and FTS2000 in general, is proof that there are well-run government programs that save money for the American public and can cause revolutionary change in major industries. This article explains PR/SR and how it was conducted. It shows how competition can be used successfully as a lever to obtain the best prices from service providers.

## FTS2000 Background

The FTS2000 contracts were awarded in December 1988 to AT&T and Sprint, the FTS2000 service contractors. Under the contracts, each service contractor provides voice, data, and video transmission services to government agencies and their users. The initial award allocated government agencies between the service contractors so that AT&T would receive 60% of the anticipated revenue for the lifetime of the contracts, and Sprint would receive 40%.

The FTS2000 contracts have two provisions for controlling prices, and hence the costs borne by American taxpayers. The first mechanism, called PAP Cap (Publicly-Available Price Cap), regularly compares FTS2000 prices to those found in publicly-available tariffs. If the FTS2000 prices of either AT&T or Sprint are found to be higher, then the prices must be lowered. PAP Cap has resulted in several price reductions over the years, amounting to about $45 million in savings[1].

One of the reasons for splitting the initial award of FTS2000 into two separate contracts was to provide a basis for continuing competitive activity between the two contractors throughout the 10-year life of the contracts. Otherwise, an award to a single contractor for a 10-year span could not necessarily guarantee that government users would get prices that held any predictable relationship to market

[1] For technical reasons, the PAP Cap price reduction is actually implemented as an invoice credit to the government's monthly bill for FTS2000 services.

prices (i.e., were always *below* market prices). So, in addition to splitting the initial award between AT&T and Sprint, a mechanism, called PR/SR, was included in the contracts signed by each contractor. PR/SR allowed for two additional internal competitions between AT&T and Sprint during the 10-year lives of their contracts with the government. In contracting terms, the internal competitions were to take place in Years 4 and 7 of the contracts. More precisely, the Year 4 PR/SR was to be completed before December 1992, and the Year 7 PR/SR was to be completed before December 1995. As such, these contracting techniques represented a significant innovation in the realm of government acquisitions. The expectation for the innovation was that market forces would apply significant downward pressures on prices that would not otherwise materialize after the initial competition. The net savings, as a result of the Price Redetermination and Service Reallocation together with PAP Cap, has been about $2.8 Billion; the price decreases responsible for these savings are shown in Figure 1. The remainder of this article describes this unusual process and assesses the results achieved.

## Description of Price Redetermination and Service Reallocation

PR/SR identified 40% of the *forecast* revenue of each of the contractors and placed it at risk, i.e., put it "in play" in a limited internal competition as shown in Figure 2. This was accomplished by providing detailed traffic information to both AT&T and Sprint which formed the basis for their cost proposals. These traffic sets represented identical traffic to be priced at the volumes appropriate for each network, and both sets were provided to both contractors. Thus, AT&T could examine the traffic that Sprint was to bid on and Sprint could examine the traffic AT&T was to bid on. The contractors then proposed new FTS2000 prices, which were analyzed against the traffic sets. The principal advantage of conducting the competition in this manner was having the total offers of the contractors calculated and agreed upon with the proposal submission. That is, the government was able to spend the bulk of its evaluation time analyzing the total "deal" offered by each contractor, instead of merely trying to reconcile numbers.

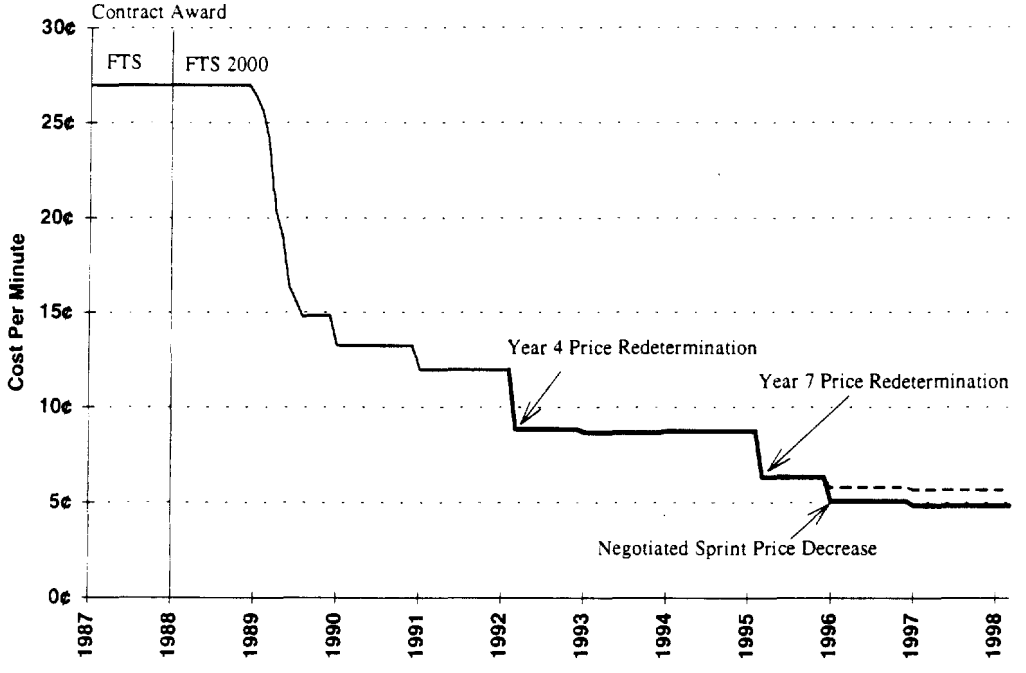



***Figure 1. FTS2000 price control mechanisms and other negotiations have saved the government nearly $2.8 billion since inception of the program***

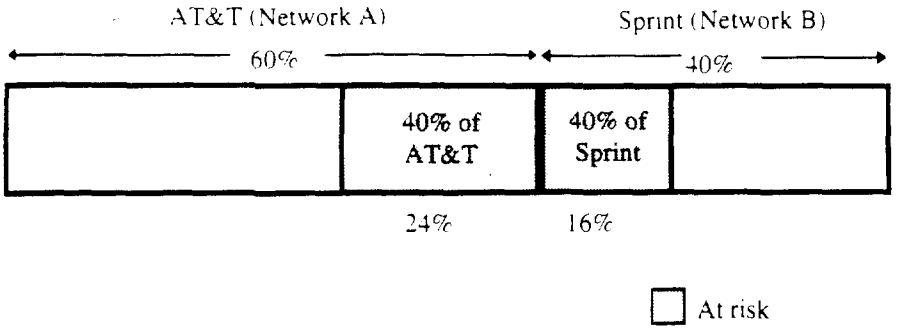



*Figure 2. PR/SR Placed 40 Percent of Each Contractor's Forecast Revenue at Risk*

While the total bottom line bids of each contractor were compared head-to-head, the evaluation did not end here. That is, the contractor with the better evaluated cost would not immediately win the cost portion of the competition[2]. Since both contractors would continue to provide significant telecommunications services to government agencies regardless of the outcome, the government's decision was actually a decision about whether moving agencies to the lower-cost network was worth the cost of moving traffic to the low-cost network. Thus, three possible outcomes to the PR/SR competition were possible and were defined formally as three *scenarios*:

- *Scenario 1* - AT&T could be awarded the at-risk revenue, thus increasing its share of the network revenue to 76%
- *Scenario 2* - Sprint could be awarded the at-risk revenue, thus increasing its share of the network revenue to 64%
- *Scenario 3* - The revenue split could remain at 60% AT&T and 40% Sprint, but *only* if it was not worth moving traffic to implement either Scenario 1 or 2

The scenarios are shown graphically in Figure 3.

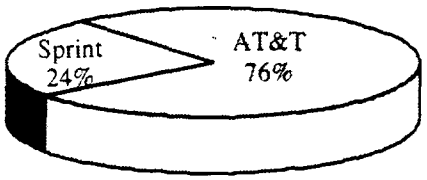
The revenue split determined by PR/SR was a *prospective target* only. That is, once the revenue split decision was made (i.e., Scenario 1, 2, or 3 was chosen), traffic from government agencies was selected to be transitioned from one contractor's network to the other to attempt to achieve the designated revenue split over the remaining life of the contracts. This portion of the internal competition, referred to as Service Reallocation (SR), applied the newly proposed prices of the contractors to the latest government forecasts to develop a set of reallocation alternatives that would achieve the desired revenue split. The government selected an alternative to implement and the results were announced to the public[3].

## Complications

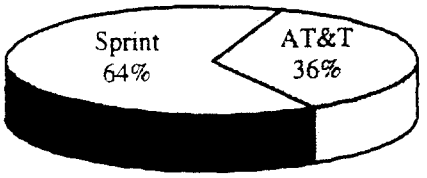
While apparently simple in concept, PR/SR is complex in practice, for a number of reasons. First, PR/SR is a competition for forecast, or future, revenue. Thus, the quality of the traffic forecast is critical to success and became a constant source of concern for both the government and the service providers. The government was concerned throughout the PR/SR process that government

[2] PR/SR includes a technical evaluation as well as a cost comparison. However, this article concentrates on the cost portion of PR/SR. Since the contractors served equally on the technical evaluations, in the end, the result of the competition came down to price.

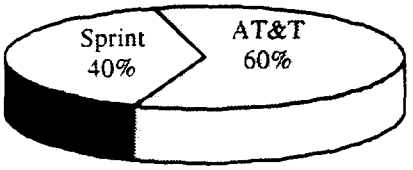
[3] Of course, agencies may grow at different rates from those forecast, or the contractors may be more or less aggressive in marketing their services, resulting in an actual revenue split different from the target. However, the government makes no attempt to adjust for these differences after the fact. The government's sole obligation is to make a good faith effort, at time of SR, to set the revenue split course for the remaining life of the two contracts.




Scenario 1 - AT&T Increases Revenue Share




Scenario 2 - Sprint Increases Revenue Share




Scenario 3 - "Draw" Considering Transition Costs for 1 or 2

***Figure 3. The Three Possible Outcomes of PR/SR***

downsizing planned by Congress would result in less traffic than forecast. This introduces risk because a number of the FTS2000 services, most notably switched voice transport, include additional price discounts as the traffic volume increases. If the forecast was too high, the government could wind up paying higher prices for service than expected. The contractors, on the other hand, worried that the forecast for their portion of the network was not correct and would result in an incorrect allocation of traffic in SR.

Second, the actual revenue split at the time of Year 7 PR/SR was not equal to the target 60% to AT&T and 40% to Sprint. One of the reasons for this is that the target revenue split covers an interval of three years, so the actual split at any given month or over any given interval less than three years need not be 60/40. Essentially, the *average* over three years should approximate 60/40. The PR/SR team had to find a way to conduct the competition fairly while allowing for the legacy split (i.e., the actual revenue split *going into* the competition), which was likely not to be 60/40, as a part of service reallocation.

Third, the volume sensitive nature of some of the FTS2000 prices complicates service reallocation. As traffic is moved from one network to the other, the price on the network losing traffic may increase because of these volume effects, while the price on the network that is gaining traffic may decrease. Thus, service reallocation is not a simple matter of identifying a percentage of revenue and moving it, since revenue is a function of prices which, in turn, are a function of traffic volumes. Furthermore, both contractors provide ways of integrating access traffic to further optimize costs. These potential optimizations, and the differences between them, must be taken into account when determining the revenue on a network.

Fourth, the presence of Scenario 3 means that each service contractor is competing not only with the other service contractor but, in a very real sense, with itself. When a service contractor offers to lower prices in an effort to gain traffic through its winning scenario, it may also cause the cost of Scenario 3 to go down. The lower the cost of Scenario 3, of course, the more likely that the government will choose to "stay the course" rather than take on the risks and expense of a transition.

Finally, FTS2000 has a large number of access locations covering virtually the entire United States, varying prices depending on location for access and transport, five major categories of service with subcategories and features within each, and the previously-mentioned options for optimization of local access. The complexity of the problem demands an automated tool to determine evaluated costs. While the use of automation is not uncommon in network procurements today, previous experience with FTS2000 showed that allowing each service

provider to develop its own automated solution resulted in time lost to both the government and the service contractors as each service contractor grappled with pricing and traffic complexities and developed different solutions. To solve this problem, the government developed an automated pricing tool for use by the service providers and for its own use in evaluating proposals. The government provided training and technical support during the proposal preparation period.

## Process

The two PR/SR activities conducted under the FTS2000 contracts were contract administration actions limited to participation by the incumbent contractors. The government chose to use the Federal Acquisition Regulation (FAR), when appropriate, as a guide to planning and conducting PR/SR. Thus, the document that provided PR/SR instructions to the contractors was organized in the same way as a Request for Proposals (RFP). Likewise, a Source Selection Plan was prepared, the cost and technical evaluations of the proposals were accomplished separately and brought together only for the ultimate decision, and communication with the contractors was done only through the GSA Contracting Officer. The use of the FAR in this way provided a familiar context for the contractors a well as for the government evaluators and helped to prevent procedural confusion.[4]

As described above, PR/SR is a competition for *forecast revenue*. Revenue is determined by a number of factors, including the following:

- The total amount of traffic for a service
- The endpoints of a communication (e.g., a telephone call from Washington, DC, to Denver, CO, or a dedicated data circuit between those cities)
- Use of features

To obtain as accurate a cost comparison as possible, the PR/SR team developed a detailed forecast of FTS2000 traffic over the remaining years of the contracts. This forecast was developed from[5]:

- Projections of trends in traffic growth, by service, for each agency using FTS2000 services
- Agencies' own forecasts of traffic growth based on their internal plans
- Observed historical trends and seasonal patterns in FTS2000 traffic

The resulting forecast traffic was priced using the prices proposed by each service contractor. Because only 40% of the forecast revenue is at stake, 40% of the calculated cost was used for the comparison. This resulted in a *generic* pricing of traffic, which could be accomplished *before* selection of the traffic that would be moved[6]. A separately-computed cost for transition was added to the cost for services, resulting in the total bottom-line evaluated cost.

Each contractor computed its evaluated cost as part of its proposal, and the PR/SR cost team verified the contractors' cost submissions by using the automation tool to recalculate the contractors' proposals. Using the procedure outlined previously, first the total costs for Scenarios 1 and 2 were compared to each other. Next, the lower proposal of Scenarios 1 and 2 was compared to Scenario 3. Scenarios 1 and 2, which involve transition of traffic if selected, include transition costs. Scenario 3, which does not involve movement of traffic, does not

[4] Unfortunately, use of the FAR also introduced confusion with a true full and open procurement competition, resulting in a Sprint protest to the General Services Board of Contract Appeals (GSBCA). GSBCA agreed with GSA that, while the PR/SR team had chosen to use the FAR for guidance in conducting PR/SR, such a choice did not mean that PR/SR actually was a full and open competition.

[5] The contractors were invited to provide traffic forecast information as well, after both expressed concern with the GSA forecast. One contractor declined, however, while the other provided information after the requested date and too late for incorporation into a new forecast.

[6] An alternative would be to select the traffic that would be moved in advance, and then to price that preselected traffic. This alternative was found to be unworkable in the Year 4 PR/SR, however, and was not considered for the Year 7 PR/SR.

include any transition costs. Thus, the bottom line price for Scenario 1 or 2 must overcome transition costs in order to compare favorably to Scenario 3. That is, it must be worth the trouble (i.e., must generate sufficient savings) for the government to incur the costs of a transition[7].

Note that while the contractors could calculate their bottom line proposal for Scenarios 1 (AT&T) and 2 (Sprint), neither could calculate the Scenario 3 bottom line. Each could only calculate its portion of Scenario 3, since Scenario 3 is calculated using prices and traffic from both networks. That is, the at-risk portions of traffic are, in effect, returned to their original networks for pricing. The bottom line costs for Scenario 3 was developed by the government by simply combining the two portions bid separately by each contractor.

## Two Key Modifications

Based on the experience and lessons learned in the Year 4 PR/SR in 1992, some adjustments were made and incorporated in the Year 7 PR/SR in 1995. In particular, the Year 4 experience revealed complications caused by the volume-sensitive nature of many of the FTS2000 services. The cost of transport for switched voice service, for example, decreases as the total volume on the network increases. For each volume-sensitive service component (e.g., voice transport), therefore, the service contractors were provided with the traffic volumes to assume for pricing as part of the traffic sets they priced; these values were referred to as *price points*. The complications arose because, as it turns out, the traffic volumes given to the contractors as price points were not necessarily the traffic volumes that the contractor would actually receive as a result of PR/SR.

How could this occur? Recall that PR/SR is a competition for *forecast* revenue. Revenue is dependent on both traffic and *prices*, and the prices are determined by the contractors as part of their proposals. Thus, the actual amount of traffic to be obtained by the contractors is dependent upon each contractor's price proposal, and cannot be known in advance by the cost team. As a result, the price points given to the contractors for pricing were based on pre-competition prices applied to traffic forecasts. The competition would determine the ultimate prices to be applied to the traffic forecasts. This, in turn, would drive the service reallocation which, in turn, would determine the actual price points.

These circumstances introduced significant risk for the government. Each contractor will, understandably, reserve its best volume discounts for traffic levels corresponding to the price points in its winning scenario (one for AT&T, two for Sprint). Furthermore, there was no incentive for a contractor to offer any discount for traffic volumes below the winning price point. Moreover, since each contractor was effectively competing partly with itself in Scenario 3, as explained earlier in this article, there is actually a *disincentive* for a contractor to provide significant discounts to the government for traffic volumes below its winning price point. As a result, the government ran the risk of making an award based on traffic volumes reflected in a price point that might never be reached in practice. This risk did not materialize in the Year 4 PR/SR because Scenario 3 was selected. However, two key modifications were made to the 1995 process to correct these potential problems.

First, rather than evaluate the cost of the network at just one price point, the government decided to evaluate the cost of the network at four price points and to average the resulting costs. Thus, the bottom-line evaluated costs for each contractor's winning scenario was determined by assuming that the contractor was awarded 10, 20, 30, and 40% of the other contractor's traffic, summing those total costs and dividing by four. This averaging technique served to mitigate the risk to the government of failing to achieve the evaluated discount levels.

The second modification removed the competitive disincentive associated with Scenario 3, and may have been the most critical contributor to the success of Year 7 PR/SR. The contractors were permitted to propose an across-the-board discount specific to each scenario. A service contractor could, therefore, propose a substantial discount to the

[7] In fact, the selection of Scenario 3 would have resulted in movement of traffic to account for a discrepancy between the observed revenue split and the target revenue split; such a traffic movement would not, technically, be part of PR/SR and was thus not included in the cost evaluation.

government if its winning scenario were selected, and no discount if either its losing scenario or Scenario 3 were selected.

## The Results

The comparison of Scenario 1 (AT&T wins) to Scenario 2 (Sprint wins) resulted in a lower evaluated cost for AT&T. The offered prices of both contractors also showed that the government's decision to average prices over four volume price points resulted, as expected, in lower prices at lower price points (i.e., traffic volumes) than just the "winning" price point.

In comparing Scenario 1 to Scenario 3, the AT&T evaluated cost was also lower, by a significant margin. Once again, the government's selected modification (in this case, the use of scenario-specific discounts) resulted in significant cost savings. Without the scenario-specific discount, AT&T would not have been able to provide the low evaluated Scenario 1 cost without also lowering its Scenario 3 cost and endangering its chances of winning. The impact of Year 7 Price Redetermination and Service Reallocation is shown in Figure 4.

## Conclusions

Notwithstanding the complexities introduced by regulations in the government's purchases of large amounts of telecommunications services, achieving tangible benefits from real competition is possible. The FTS2000 program has demonstrated this by reducing prices by more than a billion dollars over the course of two internal recompetitions since 1992. In our opinion, injecting competitive incentives into the process is reducible to two main ingredients:

1. Giving the competitors a definite, tangible, and significant prize to win
2. Providing a framework for the competition in which the competitors are given the necessary freedom to bid at will

The first ingredient was introduced by providing the contractors with very specific traffic information that could be counted, verified, priced, and analyzed for a multitude of purposes. With the introduction of the scenario specific discounts, the second ingredient, the contractors could offer whatever they would to win without fear of unintended consequences. That is, they were free to do their utmost to avoid losing.

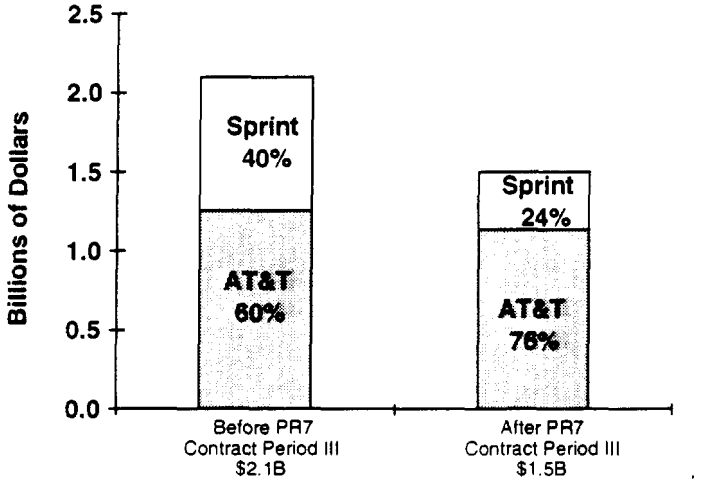



*Figure 4. Impact of Year 7 PR/SR Decision on Contractors and on FTS2000 Costs*

The essence of competition involves a balanced appeal to both the competitor's desire to gain something real and the fear of losing what has already been counted as gain. We are hopeful that future competitions will be able to build on the experiences of the PR/SR process, mainly by simplifying even further, so that the stakes become even more clear and unambiguous to the competitors and thereby further unleash competitive forces to the ultimate benefit of the American taxpayer.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